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THE SMALLEST POLYODON.

THOMAS BARBOUR.

An article which appeared in a recent BIOLOGICAL BULLETIN by Danforth, entitled a "74 mm. Polyodon"¹ reminded me that some years ago I had seen some small specimens of Polyodon in the study collection of Fishes in the Museum of Comparative Zoölogy. A reëxamination of the material preserved there revealed three examples, the smallest hitherto recorded, as well as others which are among the smallest known. The three important examples are 35 mm., 37 mm. and 65 mm. long. The last individual was somewhat dried and was obviously similar in form and development to the specimen described and figured by Danforth. The smallest has been badly softened and swollen by immersion in weak alcohol. This individual was collected in Arkansas by Mr. G. Stolley and came to the museum before 1860. The other two small specimens as well as three more, which are 80 mm., 85 mm. and 93 mm., came from near St. Louis, Mo., and were collected in September, 1854, by a Dr. Eastman. They were in the private collection of Professor Louis Agassiz which was acquired by Harvard University as the foundation for the Museum of Comparative Zoölogy. These five examples have been kept in strong clear alcohol and are well preserved. The example of 37 mm. then is the important specimen in that it is the smallest known which is reasonably well preserved. Professor C. H. Eigenmann, who has seen this specimen, suggested that it was probably about three months old, in which case the egg laying would take place in July. If this were not really the case it is quite possible that Danforth's individual which was about 3 inches long was not the swift-grown young of the year but a specimen which had lived over one winter. Growth may be very slow or almost arrested during the cold months in the latitude of St. Louis. If, as is quite possible, the 37 mm. young was really much younger than three months, then this

¹ BIOL. BULL., XX., 4, 1911, pp. 201-204.

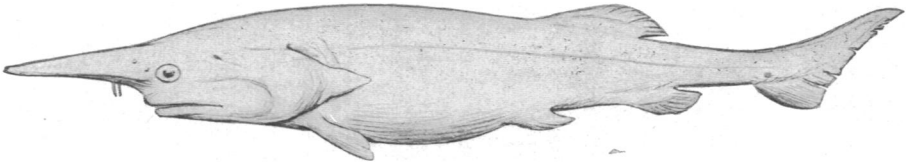
rate of growth would seem reasonable enough. Emphasis is laid on this point because great search has been made for the young during the months of spring and early summer. This search has been fruitless, while these inch-long fishes were got in September.

The drawings which have been made by Mr. E. N. Fischer with special regard to the proportions, show three aspects, dorsal, lateral, and ventral of the 37 mm. example, as well as of one 80 mm. long; two aspects of a fish 130 mm. long and a lateral view of a three-foot adult. These figures serve to show the remarkable features of the young as well as the changes in form which the species undergoes during growth, better than would a lengthy verbal description.

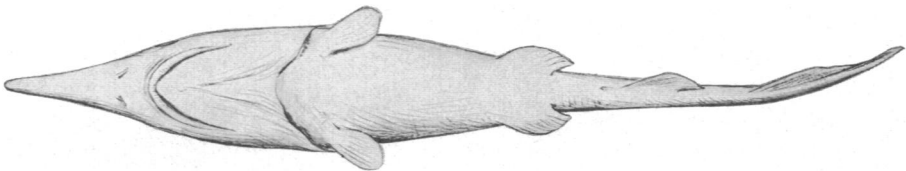
As may be readily seen from the drawings the most interesting characters to be observed in the young are the short sturgeon-like snout which has not yet become in the least spatulate; the extremely heterocercal form of the tail; the relatively long barbels and the less developed fins throughout. Unfortunately the notch near the outer extremity of the caudal fin is not shown in the very young because of the frayed margin of the tail fin. This character is marked in the slightly larger examples and, as is shown in the lateral view of the 80 mm. specimens, the notch marks the point where the cartilaginous fin rays cease to be developed. This character would seem to suggest that seen in the caudal fins of certain sharks where there is a similar notch. The whole general form of this, the smallest known selachostomous ganoid is certainly most strikingly shark-like as well as reminiscent of the adult forms of other ganoid genera.

EXPLANATION OF PLATE I.

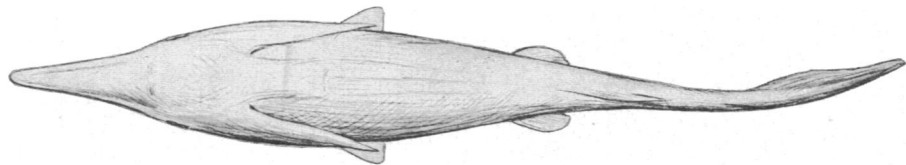
37 mm. *Polyodon*, $\times 3$. Fig. 1*A*, lateral view; Fig. 1*B*, ventral view; Fig. 1*C*, dorsal view.



1A



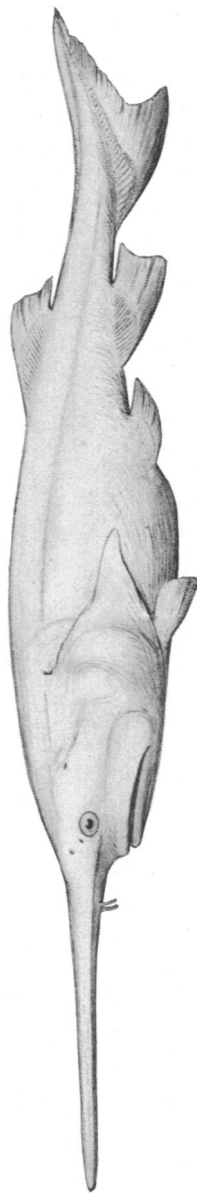
1B



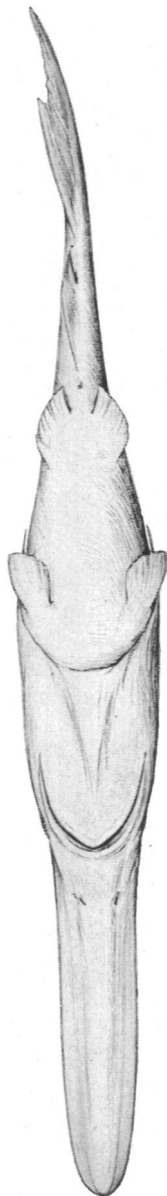
1C

EXPLANATION OF PLATE II.

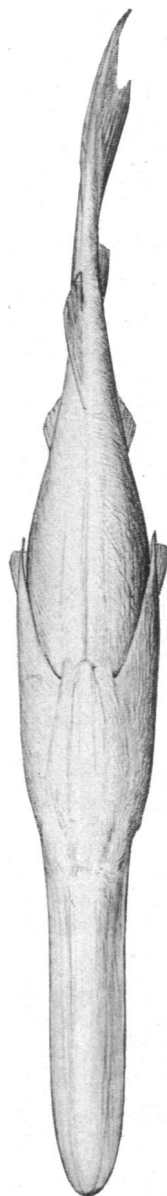
80 mm. *Polyodon*, $\times 2$. Fig. 2*A*, lateral view; Fig. 2*B*, ventral view; Fig. 2*C*, dorsal view.



2A



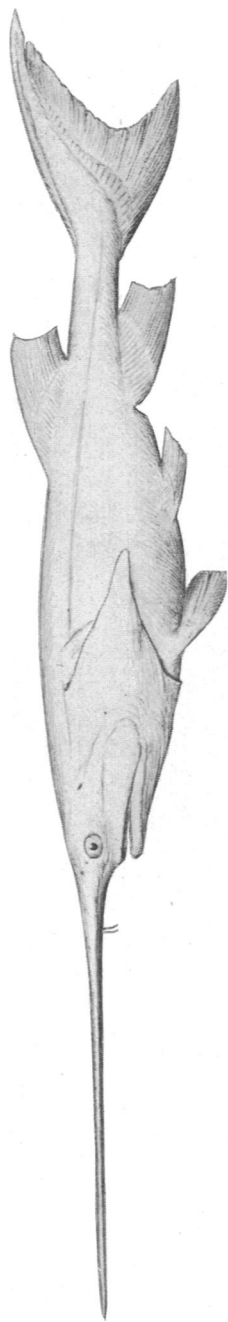
2B



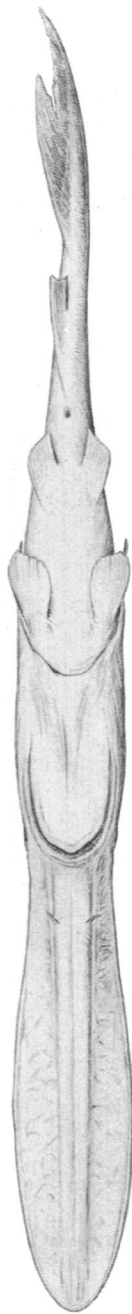
2C

EXPLANATION OF PLATE III.

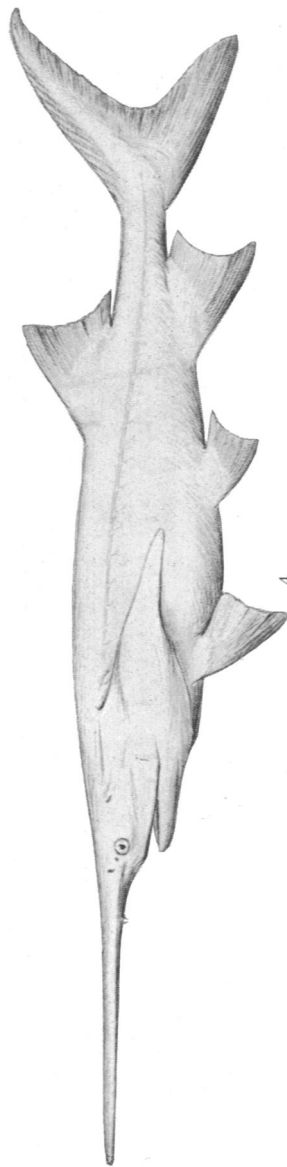
Figs. 3*A* and 3*B*, 130 mm. *Polyodon*, lateral and ventral views. $\times 1\frac{1}{3}$. Fig. 4, 3 ft. individual from Boston market, $\frac{1}{6}$ natural size.



3A



3B



4